

REMARKS

Claims 1-4, 6-15 are now pending. Claim 5 has been cancelled and claim 1 has been amended to include the limitations previously set forth in claim 5. No new matter is added.

The Examiner rejected claims 1-15 under 35 USC 103(a) as being unpatentable over JP2000281636 ("the JP reference"). The Examiner asserts that the JP reference teaches a condensation reaction of an active methylene (I) with an aryl halide (II) to form an active methylene-substituted arene derivative. The process occurs in the presence of a base and a ferrocene palladium catalyst which differs from the claimed invention by the claimed use of sodium hydroxide base. According to the Examiner, the teachings of the JP reference render the rejected claims prima facie obvious since the reference disclosure of "base" strongly suggests the claimed process of using alkali metal hydroxides with a reasonable expectation of success.

The amended claims are now limited to specific palladium catalysts. The catalyst used in the reactions according to the JP is exclusively [1,1-bis(diphenylphosphino)ferrocene] palladium(II)chloride, i.e. a palladium catalyst containing a ferrocene ligand. This catalyst differs from those specifically recited in amended claim 1 as the catalysts of claim 1 are free of such ferrocene ligands. Thus, the claimed process is novel in view of the teachings of JP.

Additionally, the JP reference does not render the amended claims obvious. Attention is directed to the description of the Synthesis Examples 1, 2, 4, 5 and 6 recited in JP. It is noted that – as mentioned above – **exclusively one single catalyst** is used in the condensation reaction. This is the above-mentioned [1,1-bis(diphenylphosphino)-ferrocene]palladium(II)chloride, which is not covered by amended claim 1. Interestingly, Comparative Examples 1, 2 and 3 refer to the exchange of this catalyst by bis(triphenylphosphine)palladium(II)dichloride and demonstrate clearly that this catalyst, which is free from ferrocene ligands, does not work--the targeted compound was not obtained and the starting material was recovered almost completely. This is a clear teaching away from the use of ferrocene ligand-free catalysts as used in the present condensation reaction. Based on this disclosure in the JP reference, the artisan would not be motivated to carry out the condensation reaction in the presence of such catalysts.

Surprisingly, and in contrast to this, it has been found in the present invention that these ferrocene ligand-free catalysts in combination with alkali metal hydroxide are very well suited for use in said condensation reaction. This result is clearly unforeseeable and thus demonstrates the nonobviousness of the present invention. Accordingly, Applicants respectfully request withdrawal of the rejection over the JP reference.

The Examiner also rejected claims 1-15 under 35 USC 103(a) as being unpatentable over WO00/78712. The Examiner states that the difference between the process of the WO reference and the claimed process is that the WO process does not specifically recite alkali metal hydroxides.

Applicants agree with the Examiner's assessment, yet Applicants disagree with the Examiner's conclusion of this difference. The Examiner concludes that the WO reference strongly suggests other nucleophilic bases such as alkali metal hydroxides. However, in this connection, please note that the disclosure on page 13 of the WO reference, beginning at line 9, is quite extensive with regard to the listing of suitable bases:

"Suitable bases for the preparation of the malonic acid dinitrile anion are weakly nucleophilic bases, such as, for example, tri-alkali metal phosphates, alkali metal and alkaline earth metal hydrides, alkali metal and alkaline earth metal amides and alkali metal alcoholates, for example tripotassium phosphate, potassium or sodium tert-butanolate, lithium diisopropylamide (LDA) and potassium or sodium hydride. The said bases are preferably used in an excess of from 2 to 10 equivalents, based on malonic acid dinitrile.

Base/solvent combinations especially suitable for producing the malonic acid dinitrile anions (Step 1 in Reaction Scheme 1) are, for example, alkali metal alcoholates in aliphatic, cycloaliphatic or aromatic hydrocarbons, for example sodium tert-butanolate in xylene."

This disclosure in the WO reference clearly suggests that it is a comprehensive and complete recitation of suitable bases useful in the WO process and that there is no room to use further bases not mentioned. Therefore, the discovery that a base not mentioned here, such as the hydroxides, works favourably in the claimed process must be considered as an advancement over the prior art.

In light of the Amendments Remarks set forth herein, Applicants respectfully request withdrawal of all rejections and request that the Examiner allow all of the pending claims.

Respectfully submitted,

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